

Title (en)

METHOD AND ULTRASONIC METER SYSTEM FOR DETERMINING PIPE ROUGHNESS

Title (de)

VERFAHREN UND ULTRASCHALLMESSSYSTEM ZUR BESTIMMUNG DER ROHRRAUHEIT

Title (fr)

PROCEDE ET SYSTEME DE COMPTEUR A ULTRASONS PERMETTANT DE DETERMINER LA RUGOSITE D'UN TUYAU

Publication

EP 1886131 A4 20101110 (EN)

Application

EP 06759872 A 20060516

Priority

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- US 68624905 P 20050601
- US 38216006 A 20060508

Abstract (en)

[origin: US2006272417A1] A method and ultrasonic meter system for determining pipe roughness. At least some of the illustrative embodiments are ultrasonic meters comprising a spool piece that couples within a flow of fluids, and a first transducer pair mechanically mounted to the spool piece and acoustically coupled to the flow of fluids (wherein the first transducer pair comprises an upstream transducer and a downstream transducer in operational relationship to the upstream transducer and defines a first chord there between). The ultrasonic meter is configured to determine diagnostic data based on acoustic signals transmitted between the first transducer pair (wherein the diagnostic data comprises an asymmetry of the flow of fluids in the spool piece, a cross flow of the flow of fluids in the spool piece, and a profile factor of the flow of fluids in the spool piece). The ultrasonic meter is configured to determine changes in the roughness of a pipe mechanically coupled to the ultrasonic meter based on a trend of the diagnostic data (wherein the trend comprises a substantially constant value of about unity for both the asymmetry and the cross flow and a substantially changing value for the profile factor).

IPC 8 full level

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CPC (source: EP US)

G01F 1/66 (2013.01 - EP US); **G01F 1/667** (2013.01 - EP US); **G01F 25/10** (2022.01 - EP US); **G01N 29/024** (2013.01 - EP US); **G01N 29/222** (2013.01 - EP US); **G01N 29/4463** (2013.01 - EP US); **G01N 2291/0215** (2013.01 - EP US); **G01N 2291/02836** (2013.01 - EP US); **G01N 2291/2634** (2013.01 - EP US)

Citation (search report)

- [X] ZANKER K J: "Diagnostic ability of the Daniel Four-Path UL Ultrasonic Flow Meter", INTERNET CITATION, 26 March 2003 (2003-03-26), XP003015197, Retrieved from the Internet <URL:http://www.daniel.com/Products/Gas/ulsonic/Seniorsonic/AppNotes/SEA%202003,%20Diagnostics%20of%20the%20Daniel%20USM,%20KZanker%20163KB.pdf> [retrieved on 20101005] & NEL: "2nd International South East Asia Hydrocarbon Flow Measurement Workshop flyer", 2003, Retrieved from the Internet <URL:http://www.tuvnel.com/flyers/2nd_SE_Asia_Workshop.pdf> [retrieved on 20101005]
- See references of WO 2006130337A2

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